

(19) World Intellectual Property
Organization
International Bureau



(43) International Publication Date
31 March 2005 (31.03.2005)

PCT

(10) International Publication Number
WO 2005/029107 A1

(51) International Patent Classification⁷: **G01R 33/028**

(21) International Application Number:
PCT/GB2004/004017

(22) International Filing Date:
21 September 2004 (21.09.2004)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
0322236.1 23 September 2003 (23.09.2003) GB
0323157.8 3 October 2003 (03.10.2003) GB

(71) Applicant (for all designated States except US): **QINETIQ LIMITED** [GB/GB]; Registered Office, 85 Buckingham Gate, London SW1E 6PD (GB).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **KING, David, Oury** [GB/GB]; QinetiQ Limited, Malvern Technology Centre, Room E9A03, St Andrew's Road, Malvern, Worcestershire WR14 3PS (GB). **BRUNSON, Kevin, Michael** [GB/GB]; QinetiQ Limited, Malvern Technology Centre, Room E9A08, St Andrew's Road, Malvern, Worcestershire WR14 3PS (GB).

(74) Agent: **P E DUNN**; QinetiQ Ltd, IP Formalities, Cody Technology Park, A4 Building, Room G016, Ively Road, Farnborough, Hampshire GU14 0LX (GB).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

Declaration under Rule 4.17:

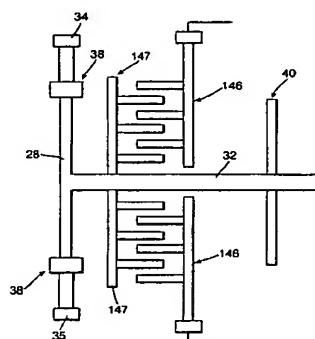
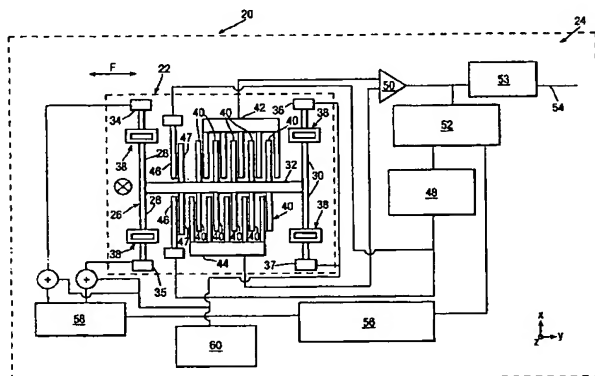
— of inventorship (Rule 4.17(iv)) for US only

Published:

— with international search report
— before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **RESONANT MAGNETOMETER DEVICE**



(57) Abstract: A resonant magnetometer (20) is described that comprises a substrate having a member (26) and means for passing an alternating current (AC) through said oscillatory member (26). The magnetometer is characterised in that driving means (46,48) are also provided to impart a magnetic field independent oscillatory force to said oscillatory member (26). A micro-electromechanical systems (MEMS) implementation of the magnetometer is described.